SOLID-STATE LIGHTING:

LED Lighting Facts® Program Supports Accuracy in SSL Product Information

DOE's LED Lighting Facts program can help consumers gain confidence that the SSL products they buy will perform to their expectations.

For the solid-state lighting (SSL) market to grow, buyers must have accurate information that allows them to choose the right products for their applications. The U.S. Department of Energy's LED Lighting Facts® program (lightingfacts.com) meets this critical need. Launched in 2008, the program showcases LED products for general illumination from manufacturers who commit to testing products and reporting performance results according to industry standards, and provides information essential to evaluating products and identifying the best options.

The LED Lighting Facts Label

Central to the program is the LED Lighting Facts label, which presents independently verified performance data
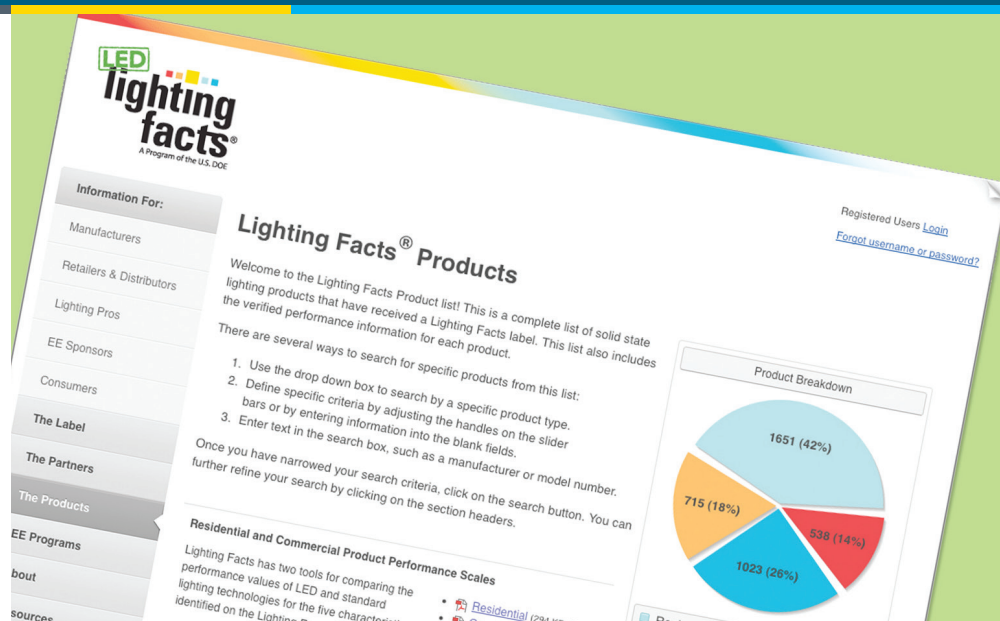
The LED Lighting Facts product list is a web-based, searchable tool that summarizes verified data, equipping buyers to make informed decisions about the best products for their applications.

in a simple summary that facilitates accurate comparison between products. The data is measured by the industry standard for testing photometric performance, IES LM-79-2008, and covers five areas: light output (lumens), watts, efficacy (lumens per watt), correlated color temperature, and color rendering index. Optional information related to LED lumen maintenance and warranty may also be provided on the label.

Manufacturers pledge to obtain the LED Lighting Facts label for their SSL general-illumination products. In conjunction, an array of Lighting Facts partners—buyers, contractors, designers, distributors, retailers, utilities, and energy efficiency programs—pledge

to look for and use products that bear the label, which guards against exaggerated and unverified claims by introducing transparency to the lighting supply chain. This helps to ensure a satisfactory experience for consumers.

An Assortment of Tools

Products registered by the program are listed on the program website along with their LED Lighting Facts label data. This online list is searchable by product name, manufacturer, and application, and the information provided is not limited to what's on the LED Lighting Facts label. There are additional metrics from the LM-79 test reports, including power factor, zonal lumens, beam angle,

The lighting industry is experiencing major changes, thanks not only to technologies that are rapidly evolving, but also to the FTC s new mandatory consumer label (see separate box) and new legislated performance requirements, such as the Energy Independence and Security Act of 2007 (EISA), which calls for the gradual phase-out of the least efficient light bulbs. The LED Lighting Facts website devotes a section to explaining EISA s implications for the lighting industry, and also offers a "Product Snapshot" of LED replacement lamps and luminaires. The Snapshot reports reveal how today's LED products really perform, drawing on analysis of the verified performance data from the LED Lighting Facts product list.
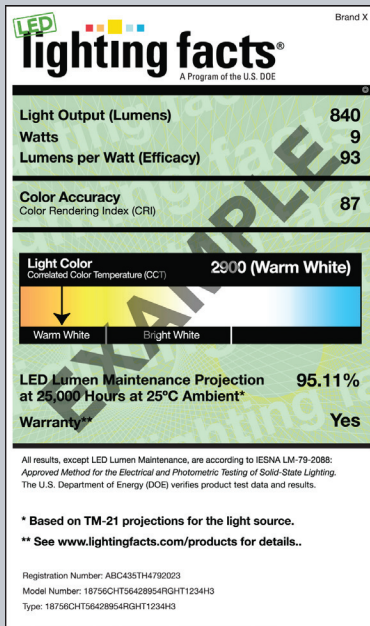
The DOE LED Lighting Facts label allows retailers and utilities to compare products to manufacturer claims and to similar products.

Lumens measure light output. The higher the number, the more light emitted.

Lumens per watt (lm/W) measure efficiency. The higher the number, the more efficient the product.

Watts measure the energy required to light the product. The lower the wattage, the less energy used.

Correlated color temperature (CCT) measures light color. "Cool" colors have higher Kelvin temperatures (3600–5500 K), and are usually better for visual tasks. "Warm" colors have lower color temperatures (2700–3000 K), and are usually better for living spaces.

Color rendering index (CRI) measures the effect of a lamp's light spectrum on the color appearance of objects. The higher the number, the truer the appearance of the light on objects. Incandescent lighting has a CRI of 100.

LED lumen maintenance measures the amount of light remaining at a given time. This optional metric is provided as a percentage of initial light output at a fixed time.

Warranty information is optional; the label indicates if the partner has provided a link to detailed warranty information on the LED Lighting Facts website.

and center beam candle power, which are optional for manufacturers to enter for their products. There are also special qualifications or recognition a product has received—such as being evaluated in a DOE GATEWAY demonstration project, being ENERGY STAR®-qualified, or winning a design competition such as Next Generation Luminaires™.

The LED Lighting Facts products page features a real-time breakdown of the various product types on the growing list of registered products. The search function generates any slice of that list that a user needs to see, with a feature to download it. Two tools, the Commercial Product Performance Scale and the Residential Product Performance Scale, facilitate benchmark comparisons between LED lighting products and their

traditional counterparts by comparing performance values for the five parameters listed on the LED Lighting Facts label to performance values for those same parameters in traditional residential and commercial lighting technologies.

How to Participate

Companies or organizations can take the LED Lighting Facts pledge at lightingfacts.com. Manufacturers must complete the online pledge form, create an account, and then submit products for verification. Once products pass the DOE verification process, manufacturers are able to download labels from the program website. To verify the data on an LED Lighting Facts label, manufacturers are required to submit a copy of the IES LM-79 test report for each product.

In addition, DOE monitors the accuracy of reported product performance through random testing, aiming to test 10 percent of the entire list of approved products each year. Those that fail to meet tolerances are delisted from the approved Lighting Facts product list, and are only relisted if the manufacturers revise their LED Lighting Facts labels and update all packaging material accordingly. This helps manufacturers as well as buyers, because products that pass the verification testing are specially designated on the LED Lighting Facts website.

Utilities and energy efficiency sponsor partners can manage and market incentive programs with the Energy Efficiency Partner Resource. This tool allows partners to qualify LED Lighting Facts products for incentives and publicize programs on the EE Programs List.

New FTC Consumer Labels for Light Bulb Packaging

Effective January 2012, the Federal Trade Commission (FTC) is requiring mandatory new labels on light bulb packages. These labels—also called Lighting Facts—are similar in appearance to the voluntary DOE label but apply only to medium screw-base light bulbs (encompassing CFLs and incandescent bulbs as well as SSL lamps), and contain information that has not been independently verified. For more on the similarities and differences between the labels, see lightingfacts.com/ftclabel.

For More Information

For more information on the LED Lighting Facts program, see lightingfacts.com.

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